

The diagram shows a circuit with two main functional blocks: a **Gm-C FILTER** and a **CONSTANT CURRENT SOURCE**.

**Gm-C FILTER:** This block is enclosed in a dashed line and includes:
 

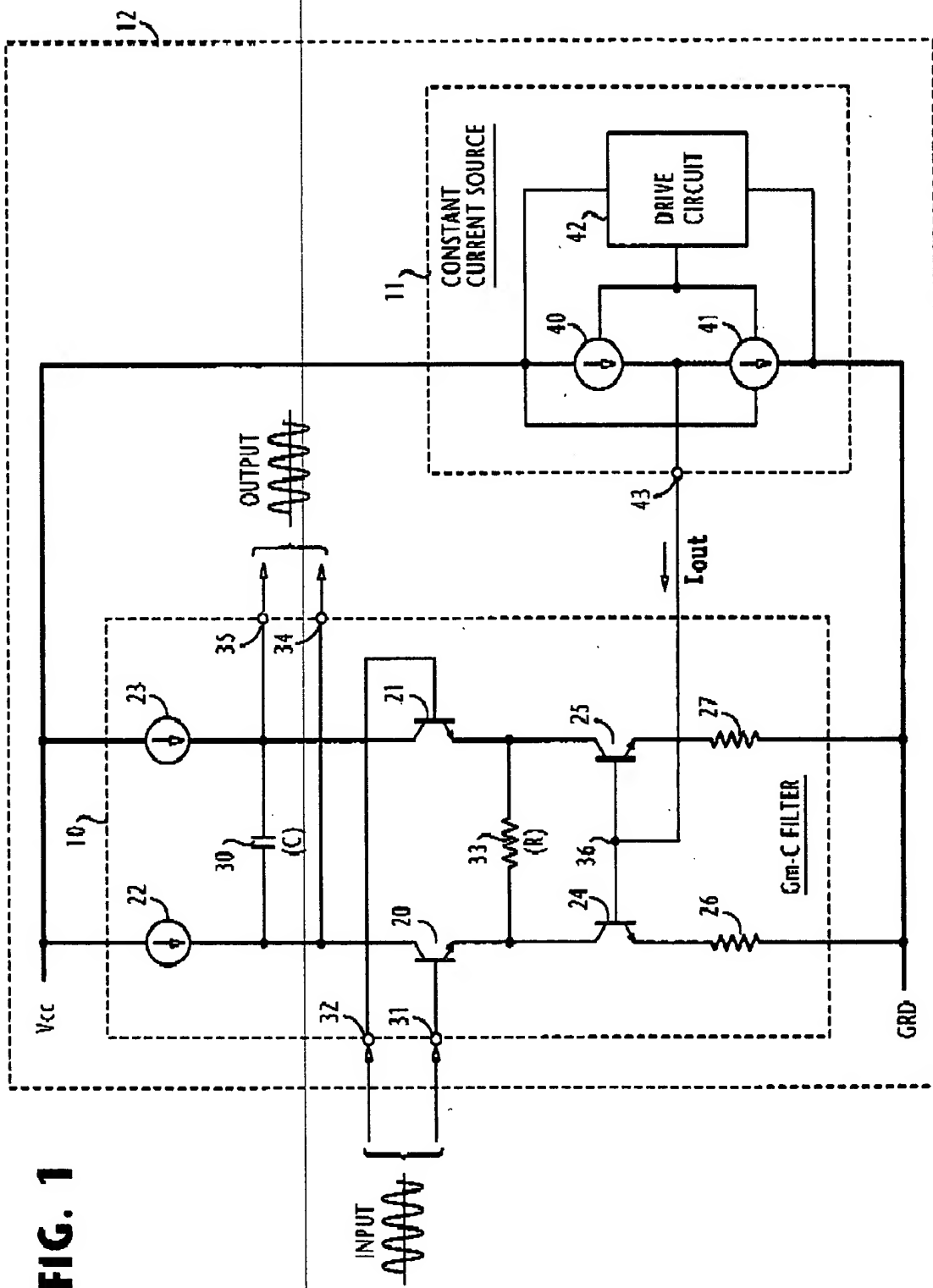
- Input:** An **INPUT** signal (represented by a sine wave) is applied to a pair of input terminals 31 and 32.
- Transistors:** Two input transistors, 20 and 21, are connected to the input terminals. Their gates are tied together and connected to a common bias voltage  $V_{CC}$  (terminal 22).
- Resistors:** A resistor 33 is connected between the drains of transistors 20 and 21. A resistor 26 is connected between the gates of transistors 20 and 21 and a common ground (GRD).
- Output:** The output of the filter is taken from the drains of transistors 20 and 21, which are connected to a common output terminal 34. A capacitor 30 is connected between the output terminal 34 and the common ground.
- Labels:** The output is labeled **OUTPUT** with a sine wave symbol. The filter is labeled **Gm-C FILTER**.

**CONSTANT CURRENT SOURCE:** This block is also enclosed in a dashed line and includes:
 

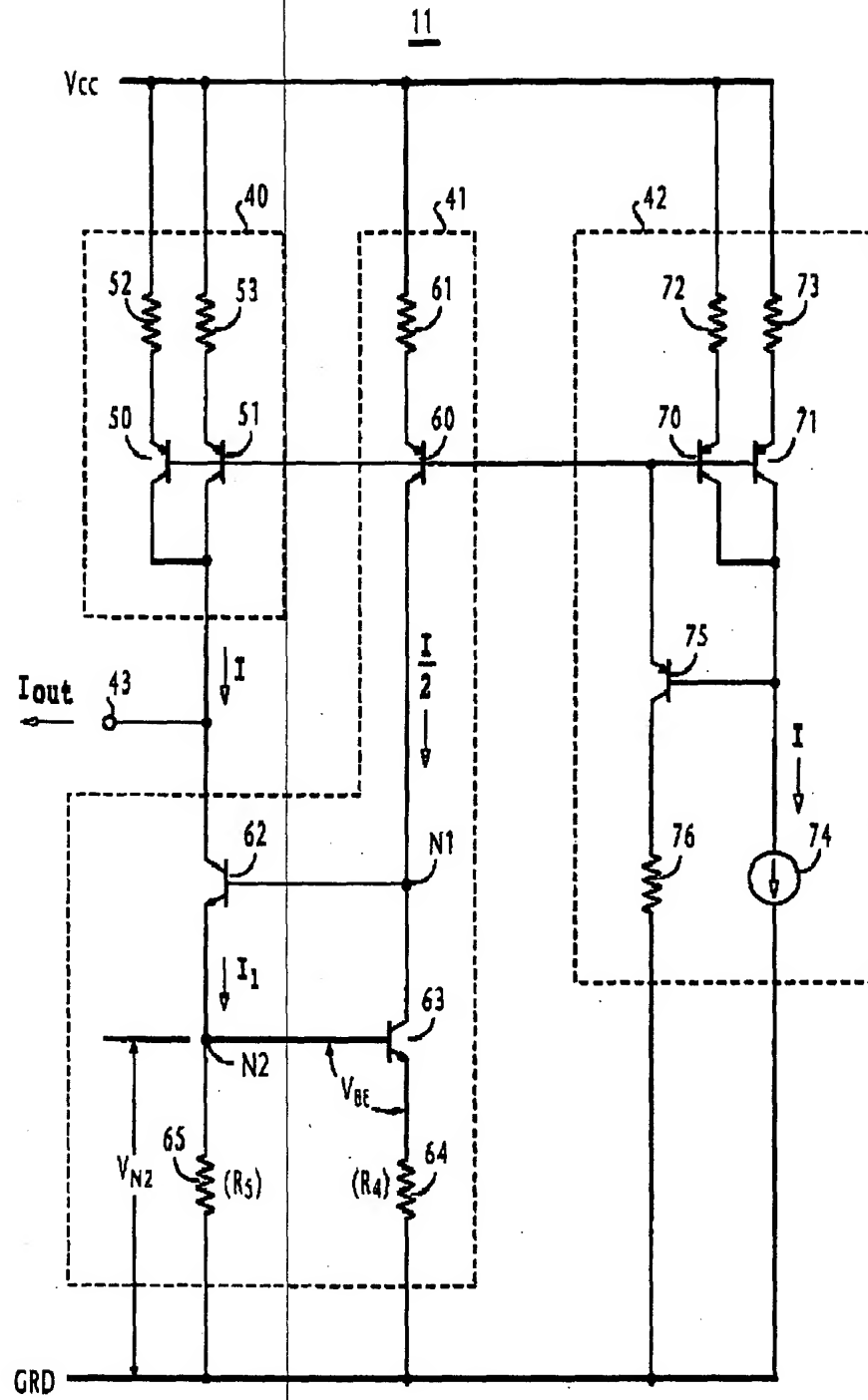
- Transistors:** Two transistors, 40 and 41, are connected in a current mirror configuration. Their gates are tied together and connected to a common bias voltage  $V_{CC}$  (terminal 42).
- Resistor:** A resistor 43 is connected between the drains of transistors 40 and 41 and a common ground.
- Labels:** The block is labeled **CONSTANT CURRENT SOURCE**.

**Overall Circuit:**

- The **CONSTANT CURRENT SOURCE** is connected to the **Gm-C FILTER** at the output terminal 34.
- The **DRIVE CIRCUIT** is connected to the gates of transistors 40 and 41.
- The output of the filter is labeled **Lout** with a downward arrow.
- The circuit is powered by  $V_{CC}$  and grounded at **GRD**.

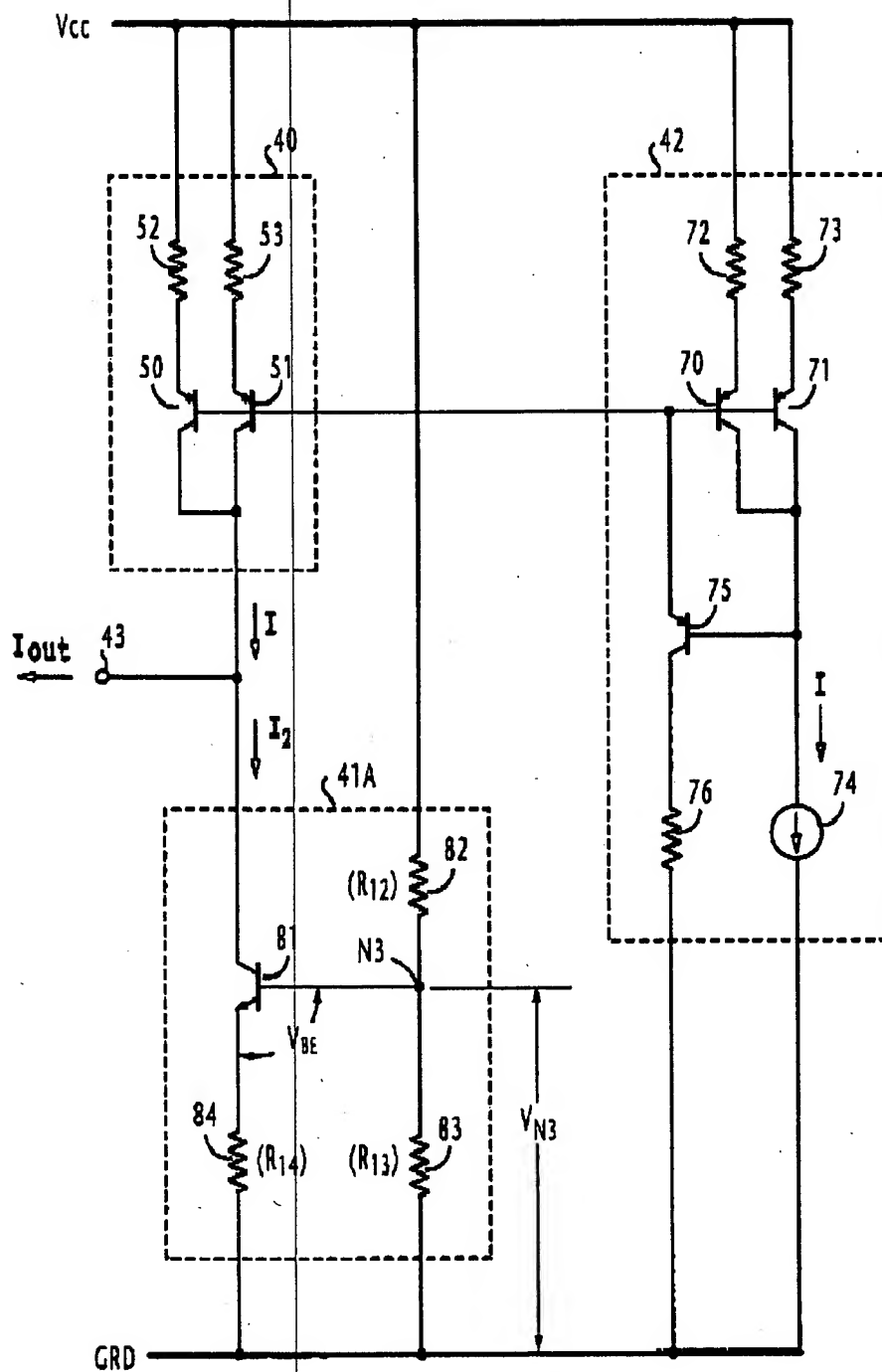


**FIG. 2**



**FIG. 3**

11A



11B

